APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,249	01/04/2002	Eric C. Anderson	18602-06614	1772

758   7590   03/17/2003

FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA   94041

EXAMINER
WHIPKEY, JASON T

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 January 2003</u> .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-46</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>9 and 10</u> is/are allowed.

6)☒ Claim(s) <u>1,2,4,11-13,21-23,28-30,35-38 and 40-46</u> is/are rejected.

7)☒ Claim(s) <u>3,5-8,14-20,24-27,31-34 and 39</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>04 January 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5)☐ Notice of Informal Patent Application (PTO-152)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> .	6)☐ Other: .

DETAILED ACTION

Reissue Application

1.   The original patent, or a statement as to loss or inaccessibility of the original

patent, must be received before this reissue application can be allowed. See 37 CFR

1.178.

Claim Objections

2.   The amendment to claim 36 is approved and the corresponding objection

withdrawn.

Claim Rejections - 35 USC § 112

3.   The amendments to claims 42, 45, and 46 are approved and the corresponding

rejections under 35 U.S.C. 112, second paragraph, are withdrawn.

Response to Arguments

4.   Applicant's arguments filed January 21, 2003, have been fully considered but

they are not persuasive.

5.   Regarding claim 1, the Applicant argues that since the image data never passes

through coordinate axis converter 16 in Yoneyama (U.S. Patent No. 5,227,889),

coordinate axis converter 16 does not rotate the image data (page 20, lines 4-5). The

examiner disagrees.

Yoneyama states in column 3, lines 6-29:

> FIG. 4 shows the constitution of the memory control unit 9. The memory
> control unit comprises a reference address generating part 15 and
> coordinate axis converting part 16. The slant information θ (the slant angle
> in the vertical direction) of the video camera apparatus delivered from the
> slant detector 8 is fed into the coordinate axis converter 16. From the
> reference address generator 15, the address to be input to the memory
> device 10 when the slant information θ is 0 is fed into the coordinate axis
> convertor [sic] part 16. Suppose the address (X0, Y0) is input from the
> reference address generating part. At this time, in the coordinate axis
> converter 16, for example, the coordinate conversion is calculated as
>
> $$X1 = X0 \times COS\ \theta + Y0 \times SIN\ \theta$$
> $$Y1 = X0 \times SIN\ \theta + Y0 \times COS\ \theta$$
>
> and a new address (X1, Y1) is obtained. According to this new address,
> when the signal is read out from the memory device 10, a corrected video
> signal is obtained. The coordinate conversion calculation in the coordinate
> axis converter 16 may be realized, for example, by the program of a
> microcomputer.

The fact that the image data never passes through coordinate axis converter 16

is immaterial to whether coordinate axis converter 16 qualifies as an image processor.

Claim 1 of the instant application defines an image processing unit as a device

for "executing program instructions stored in [a] memory", as the Applicant points out in

the arguments. The claimed program instructions are "for selectively transforming said

captured image data into rotated image data".

Likewise, Yoneyama teaches that coordinate axis converter 16 transforms the captured image data into rotated image data by calculating a new address for each pixel captured, wherein the new address is used to selectively read out data from memory device 10 and produce a corrected video signal. Although the Applicant argues that Yoneyama effects rotation by "controlling the reading of stored video signals from memory 10 and not by transforming the captured image data into rotated image data", the examiner maintains that "transforming the captured image data into rotated image data" is exactly what Yoneyama teaches. It is clear that Yoneyama does not store the resulting data in memory 10, but this does not negate the fact that rotated image data is produced. Since coordinate axis converter 16 and its intermediate circuitry is an image processing unit in accordance with the Applicant's claimed definition, it is also inconsequential that "any image processing would presumably be performed outside the video camera".

This ground for rejection also applies to the Applicant's arguments regarding all other claims.

The examiner's ground for rejection of claim 11 in the first Office Action differs slightly from that described above. On page 4 of said action, the examiner rejects claim 11 by expanding the realm the image processor to include memory control unit 9 (which encapsulates coordinate axis converter 16, as shown in Figure 4) and memory 10, which is shown in Figure 2. As a result, the examiner rejects claim 11 over Yoneyama, since the prior art transfers image data to the image processing unit and rotates the display orientation of the data prior to output.

Claim Rejections - 35 USC § 102

6.   The text of those sections of Title 35, U.S. Code not included in this action can
be found in a prior Office action.

7.   Claims 1, 2, 4, 11, 12, 36-38, and 40-46 are rejected under 35 U.S.C. 102(b) as
being anticipated by Yoneyama.

Regarding claims 1, 36, 37, 40, 42, 45, and 46, Yoneyama discloses a video
camera that corrects for image slant. Photoelectric converter 2 captures image data,
and slant detector 8 calculates the slant angle of the camera (column 2, lines 56-57).
Calculations for rotating the captured image may be performed according to the
program of a microcomputer operating as coordinate axis converter 16, shown in Figure
4 (column 3, lines 27-29). It is inherent that microcomputers have memory. Therefore,
coordinate axis converter 16 acts as a memory, image rotator, and image processing
unit.

Photoelectric converter 2 captures video margin circle 21 shown in Figure 3 and
stores the entire area in memory, even though a sub-array of the data is actually output
(column 2, line 68, through column 3, line 4). It therefore generates at least one
additional row and column of image data.

Regarding claim 2, coordinate axis converter 16 uses captured image data from
photoelectric converter 2 to output a corrected video signal (column 3, lines 8-32).

Regarding claim 4, it is inherent that if slant angle θ were equal to zero degrees, the output data would not be rotated — otherwise, the image data output would be erroneously rotated.

Regarding claim 11, Yoneyama discloses a video camera that corrects for image slant. Photoelectric converter 2 captures image data, and slant detector 8 calculates the slant angle of the camera (column 2, lines 56-57). Though not specifically stated, camera orientation detection and image capture must be substantially simultaneous because the camera is a video camera.

Memory 10 and memory control unit 9 perform image processing on the captured data. Photoelectric converter 2 captures video margin circle 21 shown in Figure 3 and stores the entire area in memory, even though a sub-array of the data is actually output (column 2, line 68, through column 3, line 4). It therefore generates at least one additional row and column of image data.

Regarding claim 12, photoelectric converter 2 generates at least one additional row and column of image data beyond what the user intended to capture, as described in the rejection of claim 11.

Regarding claim 38, coordinate axis converter 16 acts as an image processing unit and image rotator as described in the rejection of claim 37.

Regarding claims 41 and 44, as shown in Figure 3, only a subset of the captured image data, such as second video region 63, is read out from video margin circle 61 based on the output of slant detector 8.

The preamble of claim 43 has no patentable weight. See MPEP §2111.02. This

claim may therefore be treated like claim 1.

Claim Rejections - 35 USC § 103

8.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

9.   Claims 21, 22, 28, 29, and 35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yoneyama.

Claim 21 may be treated like claim 1. However, Yoneyama is silent with regard

to using multicolor image data. The advantage to using multicolor image data is that

more realistic video can be conveyed to the viewer. For this reason, it would have been

obvious to have Yoneyama's video camera generate multicolor image data.

Regarding claim 22, photoelectric converter 2 generates at least one additional

row and column of image data beyond what the user intended to capture, as described

in the rejection of claim 11.

Claim 28 may be treated like claim 21. Additionally, since only a sub-array of

image data from video margin circle 61 is used in the output signal, at least one fewer

row and column are used in the output signal than in the input signal.

Yoneyama is silent with regard to using a computer program to control the entire

system.

Hardware and software are art-recognized equivalents for the same purpose. See MPEP §2144.06. One specific advantage to controlling the system with software is that the instructions would be upgradeable for future use. For this reason, it would have been obvious to have image capture, rotation, and processing controlled by software.

Regarding claim 29, photoelectric converter 2 generates at least one additional row and column of image data beyond what the user intended to capture, as described in the rejection of claim 11.

Claim 35 may be treated like claim 1. Additionally, since only a sub-array of image data from video margin circle 61 is used in the output signal, at least one fewer row and column are used in the output signal than in the input signal.

Yoneyama is silent with regard to using multicolor image data. The advantage to using multicolor image data is that more realistic video can be conveyed to the viewer. For this reason, it would have been obvious to have Yoneyama's video camera generate multicolor image data.

10.   Claims 13, 23, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneyama in view of Tabei.

Claims 13, 23, and 30 may be treated like claims 11, 21, and 28, respectively. However, Yoneyama is silent with regard to using defect-correcting means in the camera.

Tabei discloses a defective pixel correction circuit that receives an output from an imaging device and detects and corrects defects produced by the device (column 1,

lines 5-6). The advantage to using a defective pixel correction circuit is that more accurate image information may be presented to the viewer. For this reason, it would have been obvious for Yoneyama to include a defective pixel correction circuit.

Allowable Subject Matter

11.   Claims 3, 5-8, 14-20, 24-27, 31-34, and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 3, 5-8, 14-20, 24-27, and 31-34, no prior art could be located that teaches or fairly suggests a camera with (a) an orientation sensor that determines whether the camera is held in either a portrait or landscape orientation, and (b) an image rotator for calculating a rotated image based on the result of the orientation.

Regarding claim 39, no prior art could be located that teaches or fairly suggests an image capture unit that adds additional rows and columns to the output of an image sensor for rotating the image in response to an orientation signal.

12.   Claims 9 and 10 are allowed. No prior art could be located that teaches or fairly suggests a camera with (a) an orientation sensor that determines whether the camera is held in either a portrait or landscape orientation, and (b) an image rotator for calculating a rotated image based on the result of the orientation.

Conclusion

13.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jason T. Whipkey, whose telephone number is (703)

305-1819. The examiner can normally be reached Monday through Friday from 9 A.M.

to 6:30 P.M. eastern standard time, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wendy R. Garber, can be reached on (703) 305-4929. The fax phone

number for the organization where this application or proceeding is assigned are (703)

872-9314 for both regular communication and After Final communication.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office,

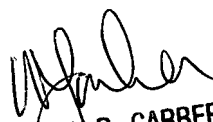whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to (703) 872-9314 for either formal or informal communications intended for

entry. (For informal or draft communications, please label **"PROPOSED"** or **"DRAFT"**.)

Hand-delivered responses should be brought to the sixth floor receptionist of

Crystal Park II, 2121 Crystal Drive in Arlington, Virginia.

JTW
JTW
March 7, 2003

WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600